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KEATING & BENNETT LLP

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JUN 16 2003

**To:** Examiner J. Gonzales **From:** Christopher A. Bennett **TECHNOCLOGY CENTER 2800**  
**Fax:** 703-872-9319 **Date:** June 16, 2003  
**Phone:** 703-305-1563 **Pages:** 12  
**Re:** 09/692,668 **CC:**  
36856.366

**Comments:**

Examiner Gonzales:

Please find attached the following for application number 09/692,668:

- Amendment After Final Rejection;
- Petition for Extension of Time;
- Credit card form payment in the amount \$930.00;
- Notice of Appeal; and
- Credit card form payment in the amount of \$320.00

Sincerely,



Christopher A. Bennett  
for  
KEATING & BENNETT, LLP  
(Registration Number 46,710)

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted to Group Art Unit 2834, 703-872-9319, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: June 16, 2003

*Sonia V. McVean*

Sonia V. McVean

**RESPONSE UNDER 37 C.F.R. § 1.116  
EXPEDITED PROCEDURE  
GROUP ART UNIT 2834**

**PATENT**  
36856.366

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Takao MUKAI et al.	Art Unit: 2834
Serial No.: 09/692,668	
Filed: October 20, 2000	Examiner: J. Gonzalez
Title: SURFACE ACOUSTIC WAVE DEVICE HAVING AN INTERDIGITAL TRANSDUCER PROVIDED ON A MAIN REGION OF A PIEZOELECTRIC SUBSTRATE	

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JUN 16 2003

TECHNOLOGY CENTER 2800

**REQUEST FOR RECONSIDERATION AFTER FINAL REJECTION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated December 18, 2002, please reconsider the above identified application in view of the following remarks.

Claims 1, 4, 5, 7, 9, 10, 13, 14, 16, and 18 are pending in this application.

The Examiner has indicated that the outstanding Office Action has been made Final (2<sup>nd</sup> to last full paragraph on page 4 of the Office Action). The Examiner has alleged that the new ground of rejection was prompted by the Information Disclosure Statement filed on April 19, 2002 (the Examiner has alleged that the IDS was filed on April 30, 2002, but the certificate of mailing indicates that the IDS was filed on April 19, 2002).

More particularly, in paragraph number 5 on page 4 of the outstanding Office Action, the Examiner indicated that the outstanding Office "Action was made final since

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the Takakuwa (JP 08-195644) reference was provided on [sic] an IDS filed on 4/30/02 (see MPEP 706.07(a))." This action by the Examiner is clearly improper.

This section 706.07(a) of the MPEP reads in pertinent part:

"Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). Where information is submitted in an information disclosure statement during the period set forth in 37 CFR 1.97(c) with a fee, the examiner may use the information submitted, e.g., a printed publication or evidence of public use, and make the next Office action final whether or not the claims have been amended, provided that no other new ground of rejection which was not necessitated by amendment to the claims is introduced by the examiner."

MPEP 706.07(a) does not apply to the current situation in this application and the finality of the Office Action is clearly premature. First, Applicants did not file the IDS of April 19, 2002 under 37 CFR 1.97(c). The IDS of April 19, 2002 was filed under 37 CFR 1.97(b)(4), "[b]efore the mailing of a first Office Action after the filing of a request for continued examination under § 1.114." The First Office Action after filing of the RCE of April 11, 2002 was mailed on June 26, 2002, long after the April 19, 2002 filing date of the IDS in which JP 08-195644 was submitted. In fact, on June 20, 2002, the Examiner signed the Form PTO-1449 filed with the IDS of April 19, 2002, clearly indicating that the U.S. Patent & Trademark Office was in possession of the IDS AND the Examiner fully considered the prior art cited in the IDS **before** the issuance of the First Office Action. Second, Applicants were not required to pay and did not pay the fee set forth in 37 CFR 1.17(p) for filing the IDS of April 19, 2002 since this IDS was filed under 37 CFR 1.97(b)(4), NOT 37 CFR 1.97(c) as incorrectly alleged by the Examiner.

As is clear from the facts of this case summarized above, the IDS of April 19, 2002 was filed and considered before the First Office Action issued on June 26, 2002. Thus, MPEP 706.07(a) and 37 CFR 1.97(c) are not applicable to the IDS of April 19,

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2002. Thus, the Examiner has absolutely no basis or grounds whatsoever for making the Office Action Final. Accordingly, the Examiner is strenuously urged to withdraw the Finality of the Office Action.

Claims 1, 4, 5, 7, 10, 13, 14, and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ago et al. (U.S. 5,684,437) in view of Takakuwa et al. (JP 08-195644). Claims 9 and 18 were rejected under 35 USC § 103(a) as being unpatentable over Ago et al. and Takakuwa et al., and further in view of Kadota et al. (U.S. 5,714,830). Applicants respectfully traverse the rejections of claims 1, 4, 5, 7, 9, 10, 13, 14, 16, and 18.

Claim 1 recites:

"A surface acoustic wave device comprising:  
a longitudinally coupled resonator filter including:

a piezoelectric substrate having a pair of substrate edges and an upper surface therebetween and including a main region and a bottom surface, the piezoelectric substrate having at least one step formed therein and extending from one of said pair of substrate edges to an inner edge of the at least one step located spaced from the one of the pair of substrate edges, the inner edge of said at least one step being arranged to contact the main region and to extend from the upper surface toward the bottom surface of the piezoelectric substrate inside the one of the pair of substrate edges;

at least two interdigital transducers provided on the main region of the piezoelectric substrate such that shear horizontal type surface acoustic waves excited by the interdigital transducer and having a wavelength of  $\lambda$  are reflected by the at least one inner edge;

wherein a distance L between the inner edge of the at least one step and the corresponding one of the substrate edges is in the range of about  $\lambda/10$  to about  $8\lambda$ , and a depth of the at least one step is in the range of about  $2\lambda$  to about  $6\lambda$ ." (emphasis added)

Applicants' claim 1 recites the features of "the piezoelectric substrate having at least one step formed therein and extending from one of said pair of substrate edges to an inner edge of the at least one step located spaced from the one of the pair of

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substrate edges." These features are shown, for example, in the preferred embodiment of **Fig. 3**, which clearly shows a step **26** extending from an edge **22** of the substrate to an inner edge **22a** of the substrate spaced from the edge **22** of the substrate.

Applicants' claim 10 includes features that are similar to the features recited in claim 1.

The Examiner has alleged that Ago et al. shows these features in **Figs. 2, 4, and 5**. However, Ago et al. clearly shows a piezoelectric substrate with an internal groove formed therein at a location that is well inside of the two outer edges of the substrate. Only **Figs. 5 and 6** in Ago et al. show substrate edges. As seen in these figures of Ago et al., the groove clearly does **NOT** extend "from one of said pair of substrate edges to an inner edge of the at least one step located spaced from the one of the pair of substrate edges" as recited in Applicants' claims 1 and 10, but rather is **completely spaced** from the substrate edges as clearly seen in **Fig. 5** of Ago et al. Note how the inner groove **22c** of Ago et al. is clearly spaced from the outer edge labeled with arrow **P** on the right hand side of this figure. Thus, Ago et al. teaches an entirely different structure that has absolutely no relevance to Applicants' claimed invention and clearly does **NOT** teach or suggest a piezoelectric substrate with at least one **step** formed therein as recited in Applicants' claims 1 and 10.

Therefore, the Examiner has failed to establish a prima facie case of obviousness of the claimed invention because all the claim limitations must be taught or suggested by the prior art. See In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) and MPEP § 706.02(j) and § 2143.03. Simply put, NONE of the prior art references relied upon by the Examiner, applied alone or in combination, teaches or suggests Applicants' unique claimed combination of elements including "the piezoelectric substrate having at least one step formed therein and **extending from one of said pair of substrate edges to an inner edge of the at least one step located spaced from the one of the pair of substrate edges.**"

Further, the Examiner has alleged that it would have been obvious to one of ordinary skill in the art to modify Ago et al. by the teachings of Takakuwa et al. to have

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two IDTs "for the purpose of providing a [sic] end surface reflection type surface wave device, which hardly causes damping" (first full paragraph on page 3 of the Office Action). The Examiner has completely failed to explain why the desire to "hardly cause damping" would have led one of ordinary skill in the art to modify the SAW device of Ago et al. to have two IDTs. Although Takakuwa et al. shows a SAW device with two IDTs in **Fig. 9**, the English abstract on which the Examiner relied upon to provide this motivation is completely silent on **Fig. 9** and the reference numbers used in **Fig. 9**. There is nothing in the English abstract of Takakuwa et al. relied upon by the Examiner that teaches or suggests the alleged motivation of hardly causing damping (or any other reason) would have led one of ordinary skill in the art to modify the SAW device of Ago et al. to have two IDTs. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness.

Furthermore, Takakuwa et al. fails to remedy the deficiencies of Ago et al. discussed above, because Takakuwa et al. clearly fails to teach or suggest "**the piezoelectric substrate having at least one step formed therein and extending from one of said pair of substrate edges to an inner edge of the at least one step located spaced from the one of the pair of substrate edges.**"

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Ago et al. in view of Takakuwa et al.

The Examiner has relied upon Kadota et al. to teach different widths of the electrode fingers. First, the Examiner has failed to indicate which Kadota et al. reference is being used. The Examiner has cited Kadota et al. patents U.S. 5,714,830, U.S. 5,838,217, U.S. 5,952,899, and U.S. 6,163,099 and Applicants have cited Michio KADOTA et al., "Ceramic Resonator Using BGS Wave and Its Application", Murata MFG. Co., Ltd., US 91-80, EA 91-93, pp. 20-27. Applicants believe that the Examiner intended to use U.S. 5,714,830. However, each of the Kadota et al. references clearly fails to teach or suggest a piezoelectric substrate with a least one step formed therein

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as recited in Applicants' claims 1 and 10.

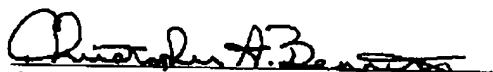
Accordingly, Applicants respectfully submit that Ago et al., Takakuwa et al., and Kadota et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 10 of the present application. Claims 4, 5, 7, and 9 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable. Claims 13, 14, 16, and 18 depend upon claim 10, and are therefore allowable for at least the reasons that claim 10 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: June 16, 2003

  
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